

Applicants: Berner et al.
Application Serial No.: 10/534,443
Filing Date: May 10, 2005
Docket No.: 442-241 PCT/US
Reply to Non-Final Office Action mailed August 8, 2006
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IN THE CLAIMS:

The following listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously Presented) A fluid power controller device comprising valve modules arranged in sequence in a row direction and collected together as an array-like unit, such modules each including a principal valve fitted with at least one moving valve member and at least one electrically operated valve drive for the principal valve, characterized in that at least two valve modules placed in sequence in the row direction are spaced apart with the formation of an intermediate space, a diagnostic module being placed in the intermediate space for the detection of at least one operational state of one or both of the adjacent principal valves.
2. (Previously Presented) The controller device as set forth in claim 1, wherein between all sequentially following modules a respective diagnostic module is arranged.
3. (Previously Presented) The controller device as set forth in claim 1, wherein between sequentially following valve modules in alternate succession in one case a diagnostic module for diagnosis of the two respective adjacent principal valves and in the other case no diagnostic module is provided.
4. (Previously Presented) The controller device as set forth in claim 1, wherein the diagnostic module does extend past the outline of the respectively adjacent valve module.
5. (Previously Presented) The controller device as set forth in claim 1, wherein the valve modules and the diagnostic module or modules are connected with a joint electrical concatenation means, which leads to a central electronic control located on board the controller device and/or to an electromechanical interface, more especially a plug means.

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6. (Previously Presented) The controller device as set forth in claim 1, wherein the valve modules and the at least one diagnostic module are collected together by a mechanical connection, as for example by means of ties, to constitute a self-supporting assembly.

7. (Previously Presented) The controller device as set forth in claim 1, wherein for the central supply and/or removal of pressure medium to and, respectively, from the valve modules at least one fluid duct is present extending through all valve modules and diagnostic modules in the row direction, such fluid duct being composed of aligned ducts of the valve modules and of the diagnostic modules, adjacent valve and diagnostic modules being placed together in a sealing manner.

8. (Previously Presented) The controller device as set forth in claim 1, wherein the valve modules and the at least one diagnostic module are seated on a rail-like or plate-like module support, in which there extends at least one fluid duct provided for the central supply and/or removal of pressure medium to and, respectively, from the valve modules.

9. (Previously Presented) The controller device as set forth in claim 1, wherein at least one diagnostic module is designed in a disk-like or plate-like form.

10. (Previously Presented) The controller device as set forth in claim 1, wherein at least one diagnostic module for detection of the at least one operational condition of the principal valve to be diagnosed is provided with sensor means adapted for the output sensor signals.

11. (Currently Amended) A fluid power controller device comprising valve modules arranged in sequence in a row direction and collected together as an array-like unit, such modules each including a principal valve fitted with at least one moving valve member and at least one electrically operated valve drive for the principal valve, characterized in that at least two valve modules placed in sequence in the row direction being spaced apart with the formation of an intermediate space, a diagnostic module being placed in the intermediate

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space for the detection of at least one operational state of one or both of the adjacent principal valves, wherein the at least one diagnostic module possesses position sensor means for the detection of one or more switching positions of the valve member of ~~the~~ at least one adjacent principal valve.

12. (Previously Presented) The controller device as set forth in claim 11, wherein the position sensor means possesses proximity sensors able to be activated without contact and more particularly sensors of an inductive type.

13. (Previously Presented) The controller device as set forth in claim 11 wherein the position sensor means are designed for optical switching position detection.

14. (Previously Presented) The controller device as set forth in claim 10, wherein at least one diagnostic module possesses pressure sensor means for the detection of one or more fluid pressures obtaining in at least one adjacent principal valve.

15. (Previously Presented) The controller device as set forth in claim 14, wherein the pressure sensor means are adapted for the detection of the supply pressure in the respective principal valve and/or at least one working pressure.

16. (Previously Presented) The controller device as set forth in claim 10, wherein the principal valve to be diagnosed comprises at least one access opening rendering possible access by the sensor means for desired state information, such opening being open toward the diagnostic module and being covered by the respective diagnostic module.

17. (Previously Presented) The controller device as set forth in claim 10, wherein at least one diagnostic module possesses evaluating electronic circuitry for the sensor signals supplied by the sensor means.

18. (Previously Presented) The controller device as set forth in claim 1, wherein at least one diagnostic module possesses state indicating means, more particularly optical indicating means.